

REMARKS**In the Claims**

Claims 1, 8, 11-15, 17-20, 22-25, 27-30, 32-33, 41-45, and 48-54 are amended herein.

In the Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show element 104 in Fig. 1 as described in the specification on page 2, paragraph [0015]. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Figure 1 has been amended herein to correct typographical errors in the formal drawings. Applicant has submitted two (2) sheets of replacement formal drawings for the Examiner's review. The amendment to the drawings has been made to add the missing call out for reference element 104 in Figure 1 as noted by the Examiner.

Applicant contends that one skilled in the art would recognize reference element 104 in Figure 1 as having been disclosed and enabled in the specification, at least, at page 2, paragraph [0015]. As such, Applicant contends that no new matter has been added by this correction and submits that the requirements of MPEP §608.02(d) and 37 CFR 1.83(a) have been met. Applicant therefore respectfully requests withdrawal of the objection and approval of the replacement drawings.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-5, 7, 9-15, 17, 23, 25-31, 33-35, 37, 41, and 43-44 were rejected under 35 U.S.C. § 102(b) as being anticipated by Huang et al. (U.S. Published App. No. 2002/0054680). Applicant respectfully traverses this rejection and submits that claims 1-5, 7, 9-15, 17, 23, 25-31, 33-35, 37, 41, and 43-44, as amended, are allowable for the following reasons.

Applicant respectfully maintains that Huang et al. discloses optical print watermarks that are human perceivable using visual filters and lens and therefore does not teach or disclose digital watermarks that steganographically encode digital data that can be machine read. *See*, Huang et al., Figures 2-6; Abstract; Paragraphs [0011]-[0014] and [0024]-[0028]. Applicant therefore respectfully submits that Huang et al. fails to teach or disclose an image containing two or more layers of digital data steganographically encoded in a digital watermark, where the image contains two or more image objects and where at least one layer of data is associated with

each image object of the two or more image objects or an image with two or more image objects, each image object having two or more layers of data encoded in a watermark of the image object and thus does not disclose all elements of the Applicant's claimed invention.

Applicant's claim 1, as amended, recites "[a]n image, comprising: an image, wherein the image contains two or more layers of digital data steganographically encoded in a digital watermark, where the image contains two or more image objects and where at least one layer of data is associated with each image object of the two or more image objects." As detailed above, Applicant submits that Huang et al. fails to teach or disclose such an image that contains two or more layers of digital data steganographically encoded in a digital watermark, where the image contains two or more image objects and where at least one layer of data is associated with each image object of the two or more image objects. As such, Huang et al. fails to teach or disclose all elements of claim 1.

Applicant's claim 11, as amended, recites "[a] method of watermarking an image, comprising: associating metadata with each image object of two or more image objects of an image; and encoding the metadata into two or more data layers of a digital watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the metadata associated with a selected image object of the two or more image objects." As detailed above, Applicant submits that Huang et al. fails to teach or disclose such a method that encodes metadata into two or more data layers of a digital watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the metadata associated with a selected image object of the two or more image objects. As such, Huang et al. fails to teach or disclose all elements of claim 11.

Applicant's claim 23, as amended, recites "[a] computer-usable medium having computer-readable instructions stored thereon for execution by a processor to perform a method comprising: associating metadata with each image object of two or more image objects of an image; and encoding the metadata into two or more data layers of a digital watermark of the image, wherein one or more selected data layers of the two or more data layers encodes the metadata associated with a selected image object of the two or more image objects." As detailed above, Applicant submits that Huang et al. fails to teach or disclose such a computer-usable medium that associates metadata with each image object of two or more image objects of an image, and encodes the metadata into two or more data layers of a digital watermark of the image. As such, Huang et al. fails to teach or disclose all elements of claim 23.

Applicant's claim 28, as amended, recites "[a] method of operating a printer, comprising: receiving a print job containing an image and two or more layers of metadata, wherein one or more layers of metadata of the two or more layers of the metadata are associated with each image object of one or more image objects of the image; and steganographically encoding the two or more layers of metadata into a digital watermark in an image." As detailed above, Applicant submits that Huang et al. fails to teach or disclose such a method that steganographically encoding the two or more layers of metadata into a digital watermark in an image at a printer. As such, Huang et al. fails to teach or disclose all elements of claim 28.

Applicant's claim 41, as amended, recites "[a] method of accessing data encoded in an image, comprising: decoding a digital watermark containing two or more layers of data with a reader, wherein one or more selected layers of data of the two or more data layers encodes metadata associated with an image object of two or more image objects in the image; and selecting an image object of two or more image objects and a subset of the two or more data layers which contains the metadata for the selected image object to view." As detailed above, Applicant submits that Huang et al. fails to teach or disclose such a method of accessing data layers associated with an image object in the image. As such, Huang et al. fails to teach or disclose all elements of claim 41.

Applicant respectfully contends that claims 1, 11, 23, 28 and 41, as pending, have been shown to be patentably distinct from the cited reference. As claims 2-5, 7, 9-10, 12-15, 17, 25-27, 29-31, 33-35, 37, and 43-44 depend from and further define claims 1, 11, 23, 28 and 41, respectively, they are also considered to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) and allowance of claims 1-5, 7, 9-15, 17, 23, 25-31, 33-35, 37, 41, and 43-44.

Claim Rejections Under 35 U.S.C. § 103

Claims 6, 8-10, 16, 18-22, 24 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang et al. (U.S. Published App. No. 2002/0054680) in view of Cox et al. (U.S. Patent No. 5,915,027). Applicant respectfully traverses this rejection and submits that claims 6, 8-10, 16, 18-22, 24 and 32 are allowable for the following reasons.

Applicant respectfully maintains, as detailed above, that Huang et al. discloses optical print watermarks that are human perceivable using visual filters and lens and therefore does not teach or disclose digital watermarks that steganographically encode digital data that can be machine read. *See*, Huang et al., Figures 2-6; Abstract; Paragraphs [0011]-[0014] and [0024]-

[0028]. Applicant therefore respectfully submits that Huang et al. fails to teach or suggest an image containing two or more layers of digital data steganographically encoded in a digital watermark, where the image contains two or more image objects and where at least one layer of data is associated with each image object of the two or more image objects or an image with two or more image objects, each image object having two or more layers of data encoded in a watermark of the image object.

In addition, Applicant respectfully maintains that Cox et al. discloses easing processing of watermarks in multimedia for copy protection by chopping the image into sections. Applicant therefore respectfully submits that Cox et al. also does not disclose or suggest associating metadata in one or more data layers of a watermark with a specific image object in the image. *See*, Cox et al., Figures 5-7; Column 2, line 36 to Column 3, line 52. As such, Applicant therefore respectfully maintains that combining the elements of Huang et al. with Cox et al. also fails to teach or suggest all elements of Applicant's claimed invention.

As claims 6, 16, 24 and 32 depend from and further define patentably distinct claims 1, 11, 23 and 28, respectively, they are considered to be in condition for allowance.

In regards to claim 8: Applicant's claim 8, as amended, recites "[a]n image, comprising: an image, wherein the image contains two or more sub-images, where at least one sub-image of the two or more sub-images contains two or more layers of data in a digital watermark encoded in the at least one image object." As detailed above, Applicant submits that Huang et al. and Cox et al. fail to teach or suggest such an image containing two or more sub-images that encode data into two or more data layers of a digital watermark of a sub-image, either alone or in combination. As such, Huang et al. and Cox et al. fail to teach or disclose all elements of claim 8.

In regards to claim 18: Applicant's claim 18, as amended, recites "[a] method of watermarking at least one sub-image of an image, comprising: encoding a plurality of layers of data in a digital watermark of at least one sub-image of an image, wherein the plurality of layers of data are metadata associated with the at least one sub-image." As detailed above, Applicant submits that Huang et al. and Cox et al. fail to teach or suggest such a method that encodes data into a plurality of data layers of a digital watermark, where the plurality of layers of data are metadata associated with the at least one sub-image of the image, either alone or in combination. As such, Huang et al. and Cox et al. fail to teach or disclose all elements of claim 18.

Applicant respectfully contends that claims 1, 8, 11, 18, 23 and 28 as pending have been shown to be patentably distinct from the cited references, either alone or in combination. As

claims 6, 9-10, 16, 19-22, 24 and 32 depend from and further define claims 1, 8, 11, 18, 23 and 28, respectively, they are also considered to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 6, 8-10, 16, 18-22, 24 and 32.

Claims 36 and 45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang et al. (U.S. Published App. No. 2002/0054680) in view of Iwamoto et al. (U.S. Patent No. 6,930,788). Applicant respectfully traverses this rejection and submits that claims 36 and 45 are allowable for the following reasons.

Applicant respectfully maintains, as stated above, that Huang et al. fails to teach or suggest all elements of claims 28 and 41, from which claims 36 and 45 depend from, respectively. In addition, Applicant respectfully maintains that Iwamoto et al. discloses a method of secure printing across a network by determining a secure communication path exists, which in one embodiment is by entry of a PIN or ID. *See*, Iwamoto et al., Abstract and Summary. Applicant therefore respectfully submits that combining the elements of Huang et al. with Iwamoto et al. fails to teach or suggest all elements of independent claims 28 and 41 and thus also fails to teach or suggest all elements of dependent claims 36 and 45, either alone or in combination.

Applicant respectfully contends that claims 28 and 41, as pending, have been shown to be patentably distinct from the cited references, either alone or in combination. As claims 36 and 45 depend from and further define claims 28 and 41, respectively, they are also considered to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 36 and 45.

Claims 38, 40, 48-51, 55-56 and 58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang et al. (U.S. Published App. No. 2002/0054680) in view of Walton (U.S. Patent No. 6,899,475). Claims 39, 52-53 and 57 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang et al. (U.S. Published App. No. 2002/0054680) in view of Walton (U.S. Patent No. 6,899,475) and further in view of Cox et al. (U.S. Patent No. 5,915,027). Claim 54 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang et al. (U.S. Published App. No. 2002/0054680) in view of Walton (U.S. Patent No. 6,899,475) and further in view of Cox et al. (U.S. Patent No. 5,915,027) and Levy et al. (U.S. Published App. No. 2002/0033844).

Applicant respectfully traverses these rejections and submits that claims 38-40 and 48-58 are allowable for the following reasons.

Applicant respectfully maintains, as detailed above, that Huang et al. discloses optical print watermarks that are human perceivable using visual filters and lens and therefore does not teach or disclose digital watermarks that steganographically encode digital data that can be machine read. *See*, Huang et al., Figures 2-6; Abstract; Paragraphs [0011]-[0014] and [0024]-[0028]. Applicant therefore respectfully submits that Huang et al. fails to teach or suggest an image containing two or more layers of digital data steganographically encoded in a digital watermark, where the image contains two or more image objects and where at least one layer of data is associated with each image object of the two or more image objects or an image with two or more image objects, each image object having two or more layers of data encoded in a watermark of the image object.

In addition, as also stated above, Applicant respectfully maintains that Cox et al. discloses easing processing of watermarks in multimedia for copy protection by chopping the image into sections. Applicant therefore respectfully submits that Cox et al. also does not disclose or suggest associating metadata in one or more data layers of a watermark with a specific image object in the image. *See*, Cox et al., Figures 5-7; Column 2, line 36 to Column 3, line 52. As such, Applicant therefore respectfully maintains that combining the elements of Huang et al. with Cox et al. also fails to teach or suggest all elements of Applicant's claimed invention.

Applicant respectfully maintains that Walton discloses watermarking the CMYK color layers of a PDL raster definition before sending the PDL to a printer. Applicant therefore respectfully submits that Walton also does not disclose or suggest associating metadata in one or more data layers of a watermark with a specific image object in the image or the process of combining them at a printer. *See*, Walton, Figures 1 and 2; Abstract; Column 1, lines 39-62. As such, Applicant therefore respectfully maintains that combining the elements of Huang et al. with Walton or with Walton and Cox et al. also fails to teach or suggest all elements of Applicant's claimed invention.

Applicant respectfully maintains that Levy et al. discloses contacting a network site contained in a watermark of an image with the device type that read it and pulling related content formatted for the device from a network. Applicant therefore respectfully submits that Levy et al. also does not disclose or suggest associating metadata in one or more data layers of a watermark with a specific image object in the image or activating a client application specified in

the metadata. *See*, Levy et al., Abstract; Figures 1-3; Paragraphs [0007]-[0010] and [0021]-[0041]. As such, Applicant therefore respectfully maintains that combining the elements of Huang et al., Walton and Cox et al. with Levy et al. also fails to teach or suggest all elements of Applicant's claimed invention.

As claims 38-40 depend from and further define patentably distinct claim 28, they are considered to be in condition for allowance.

In regards to claim 48: Applicant's claim 48, as amended, recites "[a] method of defining multiple layers of metadata for a watermark in an image, comprising: associating two or more image objects of an image with two or more layers of metadata in an application, wherein one or more metadata layers of the two or more layers of metadata encodes metadata associated with an image object of the two or more image objects; and encoding the image and two or more layers of metadata into a page description language (PDL) definition of the image with a steganographically encoded digital watermark of the two or more layers of metadata." As detailed above, Applicant submits that Huang et al. and Cox et al. fail to teach or suggest such an image containing two or more sub-images that encode data into two or more data layers of a digital watermark of a sub-image, either alone or in combination. As such, Huang et al. and Cox et al. fail to teach or disclose all elements of claim 48.

Applicant respectfully contends that claims 28 and 48 as pending have been shown to be patentably distinct from the cited references, either alone or in combination. As claims 38-40 and 49-58 depend from and further define claims 28 and 48, respectively, they are also considered to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 38-40 and 48-58.

Claims 46 and 47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang et al. (U.S. Published App. No. 2002/0054680) in view of Epstein (U.S. Published App. No. 2003/0159043). Applicant respectfully traverses this rejection and submits that claims 36 and 45 are allowable for the following reasons.

Applicant respectfully maintains, as stated above, that Huang et al. fails to teach or suggest all elements of claim 41, from which claims 46 and 47 depend from, respectively. In addition, Applicant respectfully maintains that Epstein discloses a copyright protection system for multimedia content that has been watermarked, through use of a decrypting "ticket" and not a client application specified in the metadata of the watermark. *See*, Epstein, Abstract and

Summary. Applicant therefore respectfully submits that combining the elements of Huang et al. with Epstein fails to teach or suggest all elements of independent claim 41 and thus also fails to teach or suggest all elements of dependent claims 36 and 45, either alone or in combination.

Applicant respectfully contends that claim 41, as pending, has been shown to be patentably distinct from the cited references, either alone or in combination. As claims 36 and 45 depend from and further define claim 41, they are also considered to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 36 and 45.

CONCLUSION

In view of the above remarks, Applicant believes that all pending claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. Please charge any further fees deemed necessary or credit any overpayment to Deposit Account No.08-2025.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2207.

Respectfully submitted,

Date: _____

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